This section of the EIR discusses the existing noise environment of the area and identifies predicted changes that may result with implementation of the proposed project. The analysis quantifies noise levels caused by project-generated traffic at the nearest sensitive land uses in the vicinity of the project site, and compares those levels to City of Morgan Hill standards. The analysis is based upon the environmental noise analysis prepared by Illingworth and Rodkin, Inc., under contract to Pacific Municipal Consultants in May 2005. This report is included within Appendix J of this EIR.

3.10.1 EXISTING SETTING

BACKGROUND

Noise may be defined as unwanted sound. Noise is usually objectionable because it is disturbing or annoying. The objectionable nature of sound could be caused by its pitch or its loudness. Pitch is the height or depth of a tone or sound, depending on the relative rapidity (frequency) of the vibrations by which it is produced. Higher pitched signals sound louder to humans than sounds with a lower pitch. Loudness is intensity of sound waves combined with the reception characteristics of the ear. Intensity may be compared with the height of an ocean wave in that it is a measure of the amplitude of the sound wave.

In addition to the concepts of pitch and loudness, there are several noise measurement scales, which are used to describe noise in a particular location. A decibel (dB) is a unit of measurement, which indicates the relative amplitude of a sound. The zero on the decibel scale is based on the lowest sound level that the healthy, unimpaired human ear can detect. Sound levels in decibels are calculated on a logarithmic basis. An increase of 10 decibels represents a ten-fold increase in acoustic energy, while 20 decibels is 100 times more intense, 30 decibels is 1,000 times more intense, etc. There is a relationship between the subjective noisiness or loudness of a sound and its intensity. Each 10-decibel increase in sound level is perceived as approximately a doubling of loudness over a fairly wide range of intensities. Technical terms are defined in **Table 3.10-1**.

Because sound levels can vary markedly over a short period of time, a method for describing either the average character of the sound or the statistical behavior of the variations must be utilized. Most commonly, environmental sounds are described in terms of an average level that has the same acoustical energy as the summation of all the time-varying events. This energy-equivalent sound/noise descriptor is called L_{eq}. The most common averaging period is hourly, but L_{eq} can describe any series of noise events of arbitrary duration.

The scientific instrument used to measure noise is the sound level meter. Sound level meters can accurately measure environmental noise levels to within about plus or minus 1

dBA. Various computer models are used to predict environmental noise levels from sources such as roadways and airports. The accuracy of the predicted models depends upon the distance the receptor is from the noise source. Close to the noise source, the models are accurate to within about plus or minus 1 to 2 dBA.

Since the sensitivity to noise increases during the evening and at night – because excessive noise interferes with the ability to sleep – 24-hour descriptors have been developed that incorporate artificial noise penalties added to quiet-time noise events. The Community Noise Equivalent Level (CNEL) is a measure of the cumulative noise exposure in a community, with a 5 dB penalty added to evening (7:00 p.m. - 10:00 p.m.) and a 10 dB addition to nocturnal (10:00 p.m. - 7:00 a.m.) noise levels. The Day/Night Average Sound Level, L_{dn}, is essentially the same as CNEL, with the exception that the evening time period is dropped and all occurrences during this three-hour period are grouped into the daytime period.

TABLE 3.10-1
ACOUSTICAL TERMINOLOGY

Term	Definition
Decibel, dB	A unit describing the amplitude of sound, equal to 20 times the logarithm to the base 10 of the ratio of the pressure of the sound measured to the reference pressure, which is 20 micropascals (20 micronewtons per square meter).
Frequency, HZ	The number of complete pressure fluctuations per second above and below atmospheric pressure.
A-Weighted Sound Level, dB	The sound pressure level in decibels as measured on a sound level meter using the A-weighting filter network. The A-weighting filter de-emphasizes the very low and very high frequency components of the sound in a manner similar to the frequency response of the human ear and correlates well with subjective reactions to noise. All sound levels in this report are A-weighted, unless reported otherwise.
L_{01}, L_{10}, L_{50}, L_{90}	The A-weighted noise levels that are exceeded 1%, 10%, 50%, and 90% of the time during the measurement period.
Equivalent Noise Level, L_{eq}	The average A-weighted noise level during the measurement period.
Community Noise Equivalent Level, CNEL	The average A-weighted noise level during a 24-hour day, obtained after addition of 5 decibels in the evening from 7:00 pm to 10:00 pm and after addition of 10 decibels to sound levels measured in the night between 10:00 p.m. and 7:00 a.m.

Term	Definition
Day/Night Noise Level, L_{dn}	The average A-weighted noise level during a 24-hour day, obtained after addition of 10 decibels to levels measured in the night between 10:00 p.m. and 7:00 a.m.
L_{max}, L_{min}	The maximum and minimum A-weighted noise level during the measurement period.
Ambient Noise Level	The composite of noise from all sources near and far. The normal or existing level of environmental noise at a given location.
Intrusive	That noise which intrudes over and above the existing ambient noise at a given location. The relative intrusiveness of a sound depends upon its amplitude, duration, frequency, and time of occurrence and tonal or informational content as well as the prevailing ambient noise level.
Decibel, dB	A unit describing the amplitude of sound, equal to 20 times the logarithm to the base 10 of the ratio of the pressure of the sound measured to the reference pressure, which is 20 micropascals (20 micronewtons per square meter).
Frequency, HZ	The number of complete pressure fluctuations per second above and below atmospheric pressure.
A-Weighted Sound Level, dB	The sound pressure level in decibels as measured on a sound level meter using the A-weighting filter network. The A-weighting filter de-emphasizes the very low and very high frequency components of the sound in a manner similar to the frequency response of the human ear and correlates well with subjective reactions to noise. All sound levels in this report are A-weighted, unless reported otherwise.
L_{01}, L_{10}, L_{50}, L_{90}	The A-weighted noise levels that are exceeded 1%, 10%, 50%, and 90% of the time during the measurement period.

Source: Illingworth and Rodkin, Inc.

PROJECT VICINITY

Existing Noise Sensitive Land Uses

Some groups of people are more affected by noise than others. These groups of people are classified as sensitive receptors. Locations that may contain a high concentration of these sensitive population groups include residential areas, hospitals, daycare facilities, elder care facilities, elementary schools, and parks.

Sensitive receptors in the vicinity of the project site include two single-family homes located south of the project site along Cochrane Road; single family homes at the corner of Cochrane Road and Mission View Drive located approximately 100 feet from the southeast corner of the project site; several rural residential homes located approximately 1,000 feet north of the project site on Peebles Avenue; and residential homes located 1,300 feet east of the project site along Peet Road.

Existing Noise Environment

The existing ambient noise environment in the project vicinity is dominated by vehicular traffic on U.S. Highway 101 and Cochrane Road. To evaluate the existing noise environment on and adjacent to the project site, Illingworth and Rodkin, Inc. conducted one 24-hour and two short-term 'spot' noise measurements between 11 a.m., Thursday, January 19th and 11 a.m., Friday, January 20th, 2005. The noise measurement locations are shown in **Figure 3.10-1.** The long-term measurement was conducted at a utility pole 130 feet south of the Cochrane Road centerline and west of the existing single family home located at the corner of DePaul Drive (formerly St. Louise Drive) and Cochrane Road. The average (L_{eq}) noise levels ranged from 58 to 65 dBA daytime and 51 to 61 dBA nighttime. The overall average daytime and nighttime L_{eq} levels were found to be 62 and 56 dBA, respectively. The L_{dn} measured at this location was calculated to be 64 dBA.

The first short-term noise measurement (ST-1) was conducted simultaneously with the long-term measurement in the southwest portion of the project site approximately 200 feet west of the U.S. Highway 101 right-of-way line and 200 feet from the centerline of Cochrane Road. The results of this measurement show that due to the shielding provided by the existing terrain of U.S. Highway 101 traffic noise, (i.e. U.S. Highway 101 is below the site grade for the entirety of the project site) the average noise levels at this location were 3 dBA below those at the long term position. The estimated L_{dn} at this location is therefore 61 dBA.

The second short term noise measurement (ST-2) was conducted in the rural residential area along Peebles Avenue north of the project site. The results of this measurement show that the average daytime sound levels away from major sources of the noise such as U.S. Highway 101 and Cochrane Road range from 52 to 56 dBA, yielding an estimated L_{dn} of 56 dBA.

3.10.2 REGULATORY SETTING

In order to limit population exposure to physically and/or psychologically damaging noise levels, the State of California, various county governments, and most municipalities in the State have established standards and ordinances to control noise. The *City of Morgan Hill*

Source: WAC Corporation and Illingworth and Rodkin

Noise Measurement Locations, May 2005

0 250 500
Scale in Miles

N

Figure 3.10-1
Noise Measurement Locations

PMC

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General Plan (2001) Noise Element and CEQA Guidelines provide regulations regarding noise levels for uses relevant to the proposed project. The following provides a general overview of the existing regulations established by the federal government, the State of California and the City of Morgan Hill.

STATE OF CALIFORNIA

California Building Standards Code

The State Building Code addresses noise intrusion in new hotels, motels, dormitories, apartment houses and dwellings other than detached single-family dwellings. Appendix Chapter 12, Section 1208A.8, Exterior Sound Transmission Control, states that indoor noise levels attributable to exterior sources shall not exceed an L_{dn} of 45 dBA in any habitable room if outdoor levels are in excess of an L_{dn} of 60 dBA. Furthermore, if windows must be closed to meet the goal, then an alternate means of providing fresh air such as mechanical ventilation or air-conditioning must be included in the design. The ventilation system must not compromise the noise reduction provided by the facade. Evidence of compliance consists of an acoustical analysis report that is submitted with the application for building permit.

California Environmental Quality Act

CEQA requires the analysis of potential noise impacts from certain projects. The noise impacts are to be assessed with respect to applicable standards and significant noise increases. The state and city noise standards can be used as thresholds of significance in the CEQA impact analysis. Policy 7e in the *City of Morgan Hill General Plan* states that noise level increases resulting from traffic associated with new projects shall be considered significant if: a) the noise level increase is 5 dBA L_{dn} or greater, with a future noise level of less than 60 dBA L_{dn} or b) the noise level increase is 3 dBA L_{dn} or greater, with a future noise level of 60 dBA L_{dn} or greater.

MORGAN HILL GENERAL PLAN

The Noise Element in the *City of Morgan Hill General Plan* contains Noise and Land use Compatibility Guidelines. These guidelines consider an exterior Day/Night Average Sound Level (L_{dn}) or CNEL, dBA of up to 70 dBA to be "normally acceptable" for commercial development and an L_{dn} of 60 dBA for single-family residential development. An L_{dn} of up to 75 dBA is considered "conditionally acceptable" for commercial development and an Ldn of up to 70 dBA for single-family residential development. If new construction is proposed in an area that is exposed to noise levels that are greater than "normally acceptable," a detailed analysis of the noise reduction requirements must be made and the needed noise insulation features included in the project design.

The following policies from the Noise Element in the *City of Morgan Hill General Plan* are relevant to the proposed project.

Goal 7 Prevention of noise from interfering with human activities or causing health problems.

Policy 7a New development projects shall be designed and constructed to meet acceptable exterior noise level standards (see Table 9) as follows:

- The maximum exterior noise level of 60 dBA L_{dn} shall be applied in residential areas where outdoor use is a major consideration (e.g. backyards in single family housing developments and recreation areas in multi-family housing projects). Where the City determines that providing an L_{dn} of 60 dBA or lower cannot be achieved after application of reasonable and feasible mitigation measures, an L_{dn} of 65 dBA may be permitted.

- Indoor noise levels should not exceed an L_{dn} of 45 dBA in new residential housing units.

- Noise levels in new residential development exposed to an exterior L_{dn} of 60 dBA or greater should be limited to a maximum instantaneous noise level (e.g. trucks on busy streets, train warning whistles) in bedrooms of 50 dBA. Maximum instantaneous noise levels in all other habitable rooms should not exceed 55 dBA. The maximum outdoor noise level for new residences near the railroad shall be 70 dBA L_{dn}, recognizing that train noise is characterized by relatively few loud events.

Policy 7b The impact of a proposed development project on existing land uses should be evaluated in terms of the potential for adverse community response based on significant increase in existing noise levels, regardless of compatibility guidelines.

Policy 7c Appropriate interior noise levels in commercial and industrial structures are a function of the use of the space and should be evaluated on a case-by-case basis.

Policy 7d Interior noise levels in office buildings should be maintained at 45 dBA.

Policy 7e Noise level increases resulting from traffic associated with new projects shall be considered significant if: a) the noise level increase is 5dBA L_{dn} or greater,

with a future noise level of less than 60 dBA L_{dn} or b) the noise level increase is 3 dBA L_{dn} or greater, with a future noise level of 60 dBA L_{dn} or greater.

Policy 7f Noise levels produced by stationary noise sources associated with new projects shall be considered significant if they substantially exceed ambient noise levels.

Action 7.1 Assess and track noise levels when specific projects are proposed to determine the continued accuracy of the Noise Contour map. If necessary, based on these assessments, update the future noise contour map to reflect changed conditions.

Action 7.2 The Noise Contour map shall be used to screen projects to determine if acoustical studies shall be required.

Action 7.3 Require attention to site planning and design techniques other than sound walls to reduce noise impacts, including: a) installing earth berms, b) increasing the distance between the noise source and the receiver; c) using non-sensitive structures such as parking lots, utility areas, and garages to shield noise-sensitive areas; d) orienting buildings to shield outdoor spaces from the noise source; and e) minimizing the noise at its source.

Action 7.4 Amend the Zoning Ordinance to reflect noise limits intended to protect noise sensitive land uses from intrusion by stationary noise sources.

Goal 8 Protection from noise associated with motor vehicles and railroad activities.

Policy 8a Roadway design, traffic signalization and other traffic planning techniques (such as limiting truck traffic in residential areas) shall be used to reduce noise caused by speed or acceleration of vehicles.

Policy 8b If noise barriers are deemed the only effective mitigation for development along major transportation corridors, an acoustical analysis shall be conducted to determine necessary dimensions.

Policy 8c The maximum height of sound walls shall be eight feet. Residential projects adjacent to the freeway shall be designed to minimize sound wall height through location of a frontage road, use of two sound walls or other applicable measures. Sound wall design and location shall be coordinated for an entire project area and shall meet Caltrans noise attenuation criteria for a projected eight-lane freeway condition. If two sound walls are used, the first shall be located immediately adjacent to the freeway right-of-way and the second shall be located as necessary to meet Caltrans noise requirements

for primary outdoor areas. The minimum rear yard setback to the second wall shall be 20 feet.

Policy 8d Ensure that sound barriers do not become targets for vandalism.

Action 8.1 Allow and encourage earth berms in new development projects as an alternative to sound walls if adequate space is available.

Action 8.2 Require non-earthen sound barriers to be landscaped, vegetated, and otherwise designed and/or obscured to improve aesthetics and discourage graffiti and other vandalism.

3.10.3 IMPACTS AND MITIGATION MEASURES

STANDARDS OF SIGNIFICANCE

Generally, a project may have a significant effect on the environment if it will substantially increase the ambient noise levels for adjoining areas or expose people to severe noise levels at the project site. In practice, more specific professional standards have been developed, as discussed previously in the Regulatory Setting section. These standards state that a noise impact may be considered significant if it would generate noise that would conflict with local planning criteria or ordinances, or substantially increase noise levels at noise-sensitive land uses.

For the EIR, noise impacts associated with the proposed project would be considered significant if the following were to occur:

- Exposure of persons to or generation of noise levels in excess of standards established in a local general plan or noise ordinance, or applicable standards of other agencies;
- A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project;
- A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project;
- For a project located within an airport land use plan or where such a plan; and/or
- For a project within the vicinity of a private airstrip, would the project expose people residing or working in the area to excessive noise levels.

METHODOLOGY

The project analysis is based on the Environmental Noise Analysis prepared by Illingworth and Rodkin, Inc. (May 2005). A combination of existing literature, existing ambient noise level measurements, and application of accepted noise prediction and sound propagation algorithms were used to predict changes in ambient noise levels with implementation of the proposed project. Project-related noise components that were identified include both short-term construction noise and long-term operational impacts, including traffic and stationary sources (e.g. delivery truck traffic, loading dock activity, outdoor garden centers, rooftop mounted mechanical equipment, etc.). Sensitive receptors (e.g. residential homes) in the vicinity of the project site were identified. Noise impacts of each of these noise sources are described below.

PROJECT IMPACTS AND MITIGATION MEASURES

Short-term Construction Noise

Impact 3.10-1 Construction activities at the project site would result in elevated noise levels, with maximum noise levels ranging from 85-88 dB at 50 feet. This is considered a **less than significant impact** impact.

During the construction phases of the proposed project, noise from construction activities would add to the noise environment in the project area affecting the single family homes located at the southeast corner of the Cochrane Road/Mission View Drive intersection and the two single family homes located south of Cochrane Road, as well as residential uses located approximately 1,000 feet to the north and 1,300 feet east of the project site. Activities involved in construction could generate maximum noise levels, as indicated in **Table 3.10-2**, ranging from 71 to 89 dB at a distance of 50 feet for standard commercial construction. Noise would also be generated during the construction phase by increased truck traffic and commute trips on area roadways. A significant project-generated noise source would be truck traffic associated with transport of heavy materials and equipment to and from the construction site.

Construction activities would be temporary in nature and are anticipated to occur during normal daytime working hours. The proposed project would be required to comply with Section 8.28.040 of the *City of Morgan Hill Municipal Code*, which would require that construction at the project site is limited to 7:00 a.m. to 8:00 p.m., Monday through Friday; between the hours of 9:00 a.m. to 6:00 p.m. on Saturdays; and prohibited on Sundays or federal holidays. Implementation of this standard condition of approval would ensure that construction activities take place only during specified times and that standard construction practices attenuate the affects of noise as much as possible in order to ensure that sensitive receptors in the vicinity of the project site are not adversely affected by the proposed project. No mitigation measures are necessary.

TABLE 3.10-2
TYPICAL RANGES OF EQUIVALENT NOISE LEVELS AT 50 FEET, L_{EQ} IN DBA, AT CONSTRUCTION SITES

Construction Activity	Land Uses					
	Office Building, Hotel, Hospital, School, Public Works		Industrial Parking Garage, Religious Amusement & Recreations, Store, Service Station		Public Works Roads & Highways, Sewers, and Trenches	
	I	II	I	II	I	II
Ground Clearing	84	84	84	83	84	84
Excavation	89	79	89	71	88	78
Foundations	78	78	77	77	88	88
Erection	87	75	84	72	79	78
Finishing	89	75	89	74	84	84

I - All pertinent equipment present at site.
II - Minimum required equipment present at site.

Source: U.S.EPA Legal Compilation on Noise, Vol. 1, p. 2-104, 1973.

Operational Noise Impacts - Increase in Traffic Noise

Impact 3.10-2 The proposed project will result in an increase of approximately 22,009 daily weekday automobile trips on the existing roadway network, which will result in traffic noise level increases greater than 5 dBA L_{dn} over background conditions. This is considered a **significant impact.**

The proposed project would result in an increase of approximately 22,009 daily weekday trips, including 533 trips during the a.m. peak hour, 1,869 trips during the p.m. peak hour, and 2,415 trips during the Saturday peak hour on the existing roadway system according to the traffic distribution presented in Section 3.12, Transportation and Circulation. Traffic generated by the proposed project would cause an increase in traffic noise levels on the local roadway network, especially along Cochrane Road and Mission View Drive in the vicinity of the project site. The extent to which existing land uses would be affected by noise levels caused by an increase in traffic will depend on the proximity of these uses to the roadways in question, as well as their individual sensitivity to noise. To assess noise impacts due to project-related traffic increases on the local roadway network, traffic noise levels were predicted based on an increase in the amount of traffic, specifically along Cochrane Road and Mission View Drive. This increase in noise levels would primarily affect two existing sensitive receptors (e.g. residential uses) located immediately south of the proposed project, as well as homes located at the southeast corner of the Cochrane Road/Mission View Drive intersection.

The increased traffic associated with the proposed project would result in a subsequent increase in noise levels along Cochrane Road that would range between two and six decibels from U.S. Highway 101 to Mission View Drive. The two residences located on the south side of Cochrane Road would experience an increase of 4 dBA with implementation of the proposed project. Traffic generated by the proposed project would increase the L_{dn} at these homes from 64 dBA to 68 dBA.

Noise levels at the residential uses located east of Mission View Drive and north of the project site would be expected to remain relatively constant since these areas would be removed from the major traffic noise sources. Single family homes located at the southeast corner of the Cochrane Road/Mission View Drive intersection would experience a 1 dBA increase along the Cochrane Road frontage and a 4 dBA increase along Mission View Drive frontage with implementation of the proposed project. Illingworth and Rodkin, Inc. estimated that the current L_{dn} at the frontage of the homes along Cochrane Road and Mission View Drive southeast of the Cochrane Road/Mission View Drive intersection is 60 dBA. Considering these homes include a typical six-foot high noise attenuation barrier, the L_{dn} at the homes is estimated at 54 dBA. Traffic generated by the proposed project would increase the L_{dn} at the homes along the Cochrane Road frontage to 55 dBA and to 58 dBA at the homes along Mission View Drive.

According to the Noise Element in the *City of Morgan Hill General Plan*, exterior noise levels up to 60 dBA L_{dn} are considered 'normally acceptable' for single family residential development. Noise levels up to 70 dBA are considered 'conditionally acceptable' and noise levels between 70 and 75 dBA are considered 'normally unacceptable.' Policy 7e in the *City of Morgan Hill General Plan states* that noise level increases resulting from traffic associated with new projects shall be considered significant if: a) the noise level increase is 5 dBA L_{dn} or greater, with a future noise level of less than 60 dBA L_{dn}, or b) the noise level increase is 3 dBA L_{dn} or greater, with future noise level of 60 dBA L_{dn} or greater.

Existing exterior noise levels at the two residences located south of Cochrane Road currently exceed the City of Morgan Hill's maximum "normally acceptable exterior noise level of 60 dBA L_{dn} for residential uses at an L_{dn} of 64 dBA. With the addition of traffic from the proposed project, exterior noise levels at these residences would increase by approximately 4 dBA to 68 dBA L_{dn}.

To reduce the proposed project's contribution to the existing and projected traffic noise levels in excess of 60 dBA L_{dn} at these existing residences, a noise barrier fronting these uses (e.g. wall or a berm, or combination of the two) would attenuate the noise sufficiently to meet the City of Morgan Hill standards for residential uses. However, it would not be feasible to construct an effective noise attenuation barrier along Cochrane Road because driveways and De Paul Drive would require openings in the barrier that would not effectively block the noise. In addition, such a barrier would create a subsequent traffic safety hazard related to inadequate sight distances for vehicle ingress and egress at the

openings for the driveways. Therefore, construction of a noise attenuation barrier is therefore considered infeasible. According to the *City of Morgan Hill General Plan*, the property where these two single-family residences are located is designated for commercial uses and one of the single family homes has been vacated. Due to the urbanization in the project vicinity, it is likely that these homes may be developed for commercial uses in the future. Therefore, this impact would be considered a **short-term significant and unavoidable impact** in the interim until these properties are developed for commercial uses. Future development on these properties would likely occur after build out of the proposed project.

Operational Noise Impacts – Stationary Noise Sources

Impact 3.10-3 Noise generated by activity associated with the proposed project would elevate off-site noise at sensitive receptors in the project vicinity. This is considered a **less than significant impact.**

On-site noise sources associated with the proposed project would include: 1) delivery truck traffic; 2) loading dock activity; 3) activity at the outdoor garden center; 4) noise generated by fixed mechanical equipment typically located on the rooftop of large and small retail stores; 5) trash compactors associated with trash service; 6) parking lot cleaning; and 7) parking lot activity.

Based on noise measurement data collected from operations at similar completed projects, the noise levels generated by each of these project activities were determined along with the associated environmental impacts.

Delivery Truck Traffic

Noise generated by delivery trucks depends primarily on the truck. Maximum noise levels generated by diesel trucks pulling in and out of loading docks ranges from 73 to 80 dBA measured at a distance of 50 feet. The maximum instantaneous A-weighted noise levels generated by step vans and smaller gasoline-powered delivery trucks ranges from 60 to 69 dBA at a distance of 50 feet. Estimated deliveries for the proposed `Target´ store would occur from 8:00 a.m. to noon for local vendors Monday through Friday, and from 4:00 p.m. to 10:00 p.m. for `Target´ deliveries Monday through Sunday. All deliveries to the second large anchor store are anticipated to occur during store hours and no deliveries are anticipated to occur between 10:00 p.m. and 6:00 a.m.

Loading Dock Activity

In addition to the truck movements to and from the project loading docks, loading activities at the docks themselves could also generate adverse noise impacts. Loading docks for the proposed large anchor stores would be located in the rear of the project site adjacent to the

stormwater drainage ponds in the northern portion of the project site. Maximum noise levels generated at loading docks typically reach 80 dBA at a distance of 50 feet. These maximum noise levels were generated by banging and clanging of metal containers and loud voices. However, the loading docks for large anchor stores are typically designed so that large delivery trucks must back up to a rubber gasket against the opening of the building, with all unloading done directly into the building. The rubber gasket type of loading dock provides a tight connection between the truck and the building specifically for the noise abatement purposes. Field observations made at similar facilities indicate that noise from this loading dock type is generally not audible or measurable from surrounding off-site locations.

Outdoor Garden Centers

Noise source associated with the outdoor garden center include a public address (PA) system. The typical noise level of a garden center PA is about 50 dBA at a distance of 50 feet (this level may need to be increased to around 60 dBA at 50 feet due to the higher existing ambient noise). Forklifts typically generate a level of 60 to 70 dBA at a distance of 50 feet. Carts and voices typically generate noise levels of 50 to 55 dBA at a distance of 50 feet.

Rooftop-Mounted Mechanical Equipment

Noise generated by rooftop-mounted mechanical equipment varies significantly depending on the type of equipment and the size. Mechanical equipment typically includes heating, ventilation, air conditioning, and refrigeration equipment. Based on measurements made at similar stores, a noise level of 60 to 70 dBA at a distance of 50 feet from the mechanical equipment would be typical.

Trash Service

Trash compactors associated with trash service typically generate maximum noise levels of 45 to 50 dBA at 150 feet, depending on the power rating and enclosure characteristics.

Parking Lot Cleaning

Typically, the parking area surface at a shopping center is periodically cleaned using small mechanical parking lot sweepers and handheld back-mounted leaf blowers. Noise measurements conducted of this type of operation at a distance of 150 feet determined that the noise levels generated by the parking lot sweepers was not measurable, but that the noise levels generated by leaf blowers ranged from 60 to 70 dBA at a distance of 150 feet.

Parking Lot Activity

Major noise sources in parking lots will include: the starting of engines, car horns, door slams, low speed moving vehicles, car alarms, unauthorized overnight parking of delivery trucks with compressors running, and human voices. Noise measurements conducted at parking lots indicate that at a distance of 150 feet, maximum noise levels generated by cars or trucks passing by, doors slams, car alarms, and engines starting range from about 47 to 52 dBA.

Based on the layout of the proposed retail development, the relative distances from surrounding noise sensitive land-uses, and the use of line source (for truck passbys) and point source (for loading and unloading trucks, mechanical equipment, trash compactors, and parking lot noises) sound attenuation models, the noise levels generated by the operation of the proposed project would be at or below the existing average (L_{eq}) noise levels at the residential uses, located north and east of the project site, and the residential uses located south of Cochrane Road. Therefore, the proposed project would have a **less than significant impact** from stationary noise sources at the project site. No mitigation measures are necessary.

Operational Noise Impacts -- Proposed Commercial Uses at the Project Site

Impact 3.10-4 The proposed project would be exposed to noise from existing and future traffic on U.S. Highway 101 and Cochrane Road. This is considered a **less than significant impact.**

The proposed site plan would buffer future noise levels at the project site from vehicular traffic along U.S. Highway 101 due to the placement of retail buildings along the western edge of the project site. Based on the results of the noise analysis conducted by Illingworth and Rodkin, Inc., the facades of the retail development closest to U.S. Highway 101 and Cochrane Road would be exposed to an L_{dn} of 70 dBA or less. According to Table 9, Acceptable Noise Levels, in the Noise Element in the *City of Morgan Hill General Plan*, exterior noise levels at the project site would therefore be considered 'normally acceptable' for commercial uses. Standard commercial construction in accordance with the Uniform Building Code, would reduce interior noise levels to within standards for commercial uses. Therefore, this would be considered a **less than significant impact.**

CUMULATIVE IMPACTS AND MITIGATION MEASURES

Cumulative Traffic Noise

Impact 3.10-5 The proposed project would contribute to cumulative traffic on the roadway network over existing conditions, which would contribute to

cumulative traffic noise at sensitive receptors along Cochrane Road. This is considered a **significant impact**.

Project generated traffic and traffic associated with cumulative development would increase the L_{dn} at the homes located southeast and east of the Cochrane Road/Mission View Drive intersection to 57 dBA along the Cochrane Road frontage and to 59 dBA at the homes located along Mission View Drive, which is considered `normally acceptable´ under the City of Morgan noise standards for residential uses. Therefore, the subsequent noise level increases at these homes under cumulative conditions would be considered less than significant. The combination of project-generated traffic and traffic associated with cumulative development in the area will increase traffic noise levels between 4 to 9 dBA from U.S. Highway 101 and Mission View Drive, with an increase of 6 dBA at the two homes located south of Cochrane Road. This would increase the L_{dn} at these homes to 70 dBA under cumulative conditions with project-generated traffic.

The only effective mitigation measure that would reduce the exterior noise levels at the two single family homes locates south of Cochrane Road, under cumulative conditions, would be construction of an effective noise attenuation barrier along Cochrane Road. Construction of a noise attenuation barrier at this location is considered infeasible as discussed in Impact 3.10-2. In addition, according to the *City of Morgan Hill General Plan*, the property in which these two residences are currently located is designated for commercial uses in the *City of Morgan Hill General Plan*. Therefore, it is likely that these properties may be developed for commercial uses in the future. Therefore, this impact would be considered a **short-term significant and unavoidable cumulative impact** in the interim until these properties are developed. Development of these properties would likely occur after build out of the proposed project.

REFERENCES/DOCUMENTATION

Illingworth and Rodkin, Inc. *Cochrane Road Retail Development Environmental Noise Assessment, Morgan Hill, California*. May 17, 2005.

Morgan Hill, City of. *Morgan Hill General Plan*. July 25, 2001 (Updated July 2004).

Morgan Hill, City of. *Morgan Hill General Plan, Draft Master Environmental Impact Report*. March 22, 2001.

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